

From Apoplexy to Brain Attack, a Historical Perspective on Stroke to Date

Dimitrios Theofanidis*

Clinical Professor, Department of Nursing, Alexander Technological Educational Institute of Thessaloniki, Greece

*Corresponding author: Dimitrios Theofanidis, Clinical Professor, Department of Nursing, Alexander Technological Educational Institute of Thessaloniki, Greece; E-mail: dimitrisnoni@yahoo.gr

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Editorial

Throughout the course of history, there has been concern about the impact of stroke on individuals, families and communities. Today, despite a wealth of information on the cause, risk factors, prevention and treatment strategies of stroke, the concern still prevails as stroke is number one cause of disability in old age.

It was during the fourth century BC, when Hippocrates first named the phenomenon of sudden onset of paralysis, loss of consciousness or sudden death: 'Apoplexy' as in 'struck down violently'. He was the first to approach scientifically what was then thought to be a 'stroke of God's hand'. Hence, many of the basic terms for stroke and carotid disease derive from ancient Greek medical literature [1]. Looking at the evolution of the terminology, one could find the following:

- Apoplexy
- Cerebro Vascular Accident (CVA)
- Stroke
- Ischaemic Stroke
- Hemorrhagic Stroke
- Intracerebral Haemorrhage
- Brain Attack

Although scientists continued to study the cause, symptoms, and treatment since the Hippocratic era, it was not until the mid-16th century A.D. when the renaissance anatomists first differentiated and concisely explained stroke pathophysiology in terms of blockage or bleeding of a brain artery.

Later the term CVA was used but more recently was discouraged as 'Accident' implied partial fault of the patient. Ischaemic stroke or stroke prevails to this day and both are medically correct and used widely by the public.

Other related expressions for stroke included 'the stroke of fate' and the 'the stroke of justice' which both evoke a sense of wrongdoing and justified divine punishment for human failings continued well into the nineteenth century. Napoleon's physician summed up the dreadful curse of apoplexy as follows:

"A first attack, which is often slight, is a summons without costs; a second, a summons with costs; but a third is an execution on the person" [2].

Thus, the notion of 'the third stroke kills' prevails to this day among the public.

The old-fashioned term 'apoplexy' is now rarely used in western hospitals and the more descriptive 'brain attack' term is becoming more common rarely used in the rest of the world. Yet, all these terms define a condition known to afflict mankind dramatically since ancient times.

In the western world mainly, the public's awareness of stroke and its treatment were not raised until the 1990's, which is considered as the 'Decade of the Brain'. The combined efforts and deep interest of specialists in the field led to a new perspective of the medical urgency of the condition. Hence, the term 'Brain Attack' was coined, especially in the USA, to denote the urgency of the situation, as equivalent to the term 'Heart Attack' [3].

Conceptual Framework

According to the World Health Organisation's criteria (Aho et al., 1980:114) stroke is defined as:

"rapidly developed clinical signs of focal (or global) disturbance of cerebral function, lasting more than 24 hours or leading to death, with no apparent cause other than of vascular origin".

Stroke is an illness in which part of the brain is suddenly and severely damaged by an interruption of the blood supply to the brain, due to infarction (thrombus or embolus) or haemorrhage (cerebral or subarachnoid). As a result, there is a loss of function to this particular part of the brain, the extent of which depends on the site and size of the lesion. This usually causes hemiplegia, weakness, perceptual dysfunction, disturbance of vision and/or speech and loss of control of the bowel and bladder [4]. There are also a number of personality and intellectual changes, ranging from difficulty in controlling emotions and lack of self confidence, to severe depression. Also, difficulties in communicating and understanding are quite common among stroke patients [5].

Due to the increasing elderly population worldwide, stroke prevalence and incidence are becoming more common, lethal, debilitating, and costly. This is especially true for the western world where ageing populations are expected to increase the burden of stroke-related disability on healthcare systems [6].

Stroke has been viewed for many centuries, even among the medical domain, as untreatable and not preventable. Often, patients with severe stroke symptomatology have faced therapeutic nihilism with instructions by the attending physician of 'do-not-resuscitate'. These attitudes may have led to self-fulfilling prophecies of the 'untreatable' and 'terminate' manner of the condition and to a pessimistic overestimation of symptoms [7]. In this context, up to three decades ago, treatments for stroke consisted mainly of supportive care and the prevention of complications.

Furthermore, in many parts of the world this practice still prevails usually coupled with a stigmatised and fatalistic view that the condition is associated only with age and degeneration. This has incorporated a subtle but insidiously negative aspect of 'ageism', strongly associated with the condition. This notion has been exacerbated by poor outcomes and the mistaken belief that stroke only

happens to the very old and is therefore not of concern to the young [8].

Although there is today a well established and effective treatment for thromboembolic stroke in its acute phase which is Recombinant Tissue Plasminogen Activator (rt-PA) this treatment is limited due to a narrow time window between the onset of symptoms and the initiation of treatment, it is resource intensive, and for some potentially hazardous.

Despite these shortcomings, increasing the access to treatment is beneficial not only to individuals but also it is expected to be beneficial to society in general because of less disability and improved quality of life for surviving patients. Decreased health care expenditure also arises due to increased patient independence. It is acknowledged that strategies to increase public awareness of stroke and the need for urgent transportation to hospital should be promoted. Also, early diagnosis by special pre-hospital teams would increase the number and proportion of patients who eligible to receive these effective but time-dependent interventions [9].

The Cochrane collaboration, the Canadian Stroke Network and other leading authorities recommend that stroke patients be hospitalised in a special unit (stroke unit) where care is delivered by a team of interdisciplinary highly trained staff such as stroke specialist nurse, specialist physician, occupational therapist, physiotherapist, speech and language therapist, social worker, pharmacist and dietitian. For over twenty years it has been established that stroke units save lives, reduce disability, shorten length of stay and generally have been associated with improved patient outcomes [10-12].

Conclusion

Since the term 'apoplexy' where stroke was related to the act of striking in the sense of a divine blow given or received and the subsequent 'Cerebral Vascular Accident' when 'patient's own responsibility' was at the forefront, the term stroke has now evolved to 'Brain Attack', exactly as to denote the fact that it is caused by a lack of blood supply to the brain, very much like a heart attack is caused by a lack of blood supply to the heart. This definition also stresses the urgent call for immediate action by the general public and emergency treatment accordingly.

Historically stroke continues to be of major concern to communities, especially under the increasing ageing populations and the financial burden imposed to most societies. Yet, of special

importance in contemporary times is to ensure the provision of stroke services with high quality can be made readily available.

In this line, health care professionals and nurses in particular, have a key role to play to ensure public awareness, the confronting of risk factors and state of the art treatment of acute stroke and long term implications with humane care delivery. Such professional attitudes and an increased interest in international research for stroke, strive at finding improved therapies for stroke patients of all ages. Thus, changes in policy and practice would benefit stroke victims within contemporary Health Care Services.

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